

Test Report No.: XMNPC23000041604 **Date:** Dec 15, 2023 Page 1 of 12

Client Name: CT MICRO ELECTRONICS XIA MEN LTD

Client Address: NO.1158, FANGSHAN SOUTH ROAD, XIAMEN TORCH HIGH TECH ZONE (XIANG'

AN)INDUSTRIAL AREA

Sample Name: CTM OVER-UNDER PHOTO COUPLER

Client Ref. Information: 6N13X Series, CT25XX, CT26XX, CT82X Series CT3XX Series, CT2XX

> Series, CT31XX Series, CT40XX Series, CTTX2X3 Series, CTR21X-8L, CTR41X-8L, CTW13X Series, CTW25XX, CTW26XX, CTW3XX Series, CTW2XX Series, CTW31XX Series, CTS45X, CTS6XX, CTS7XX, CTS3XX, CTS2XX, CTS31XX Series, CTR2XX-M4 Series, CTR4XX-M4 Series CTS48X

The above sample(s) and information were provided by the client.

SGS Job No.:

XMIN2312002768PC01

Sample Receiving Date:

Dec 05, 2023

Testing Period:

Dec 05, 2023 ~ Dec 15, 2023

Test Requested:

Select test(s) as requested by the client.

Test Method(s):

Please refer to next page(s).

Test Result(s):

Please refer to next page(s).

	Test Requirement	Conclusion
1	EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	Pass
2	EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium and Hexavalent chromium	Pass
3	Halogen	See Results
4	Chlorinated Paraffins	See Results
5	Tetrabromobisphenol A (TBBP-A)	See Results

Signed for and on behalf of

SGS CSTC Standards Technical Services Co., Ltd. Xiamen Branch

Rae chen

Rae Chen

Approved Signatory





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Test Result(s):

Test Part Description:

SN ID	Sample No.	SGS Sample ID	Description
SN1	A6	XMN23-0000416-0001.C006	Silvery metal pin part
SN2	A8	XMN23-0000416-0001.C008	Black material part

Remarks:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017,

IEC 62321-6:2015 and IEC 62321-8:2017, analysis was performed by ICP-OES, UV-Vis

and GC-MS.

Test Item(s)	Limit	Unit(s)	MDL	A8
Cadmium(Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND
Polybromobiphenyl (PBBs)	1000	mg/kg	1	ND
Monobromobiphenyl (MonoBB)	-	mg/kg	5	ND
Dibromobiphenyl (DiBB)	-	mg/kg	5	ND
Tribromobiphenyl (TriBB)	-	mg/kg	5	ND
Tetrabromobiphenyl (TetraBB)	-	mg/kg	5	ND
Pentabromobiphenyl (PentaBB)	-	mg/kg	5	ND
Hexabromobiphenyl (HexaBB)	-	mg/kg	5	ND
Heptabromobiphenyl (HeptaBB)	-	mg/kg	5	ND
Octabromobiphenyl (OctaBB)	-	mg/kg	5	ND
Nonabromobiphenyl (NonaBB)	-	mg/kg	5	ND
Decabromobiphenyl (DecaBB)	-	mg/kg	5	ND
Polybromodiphenyl ether(PBDEs)	1000	mg/kg	-	ND
Monobromodiphenylether (MonoBDE)	-	mg/kg	5	ND
Dibromodiphenylether (DiBDE)	-	mg/kg	5	ND
Tribromodiphenylether (TriBDE)	-	mg/kg	5	ND
Tetrabromodiphenylether (TetraBDE)	-	mg/kg	5	ND
Pentabromodiphenylether (PentaBDE)	-	mg/kg	5	ND
Hexabromodiphenylether (HexaBDE)	-	mg/kg	5	ND
Heptabromodiphenylether (HeptaBDE)	-	mg/kg	5	ND
Octabromodiphenylether (OctaBDE)	-	mg/kg	5	ND
Nonabromodiphenylether (NonaBDE)	-	mg/kg	5	ND
Decabromodiphenylether (DecaBDE)	-	mg/kg	5	ND
Dibutyl Phthalate(DBP)	1000	mg/kg	50	ND



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Test Item(s)	Limit	Unit(s)	MDL	A8
Benzyl Butyl Phthalate(BBP)	1000	mg/kg	50	ND
Bis-(2-ethylhexyl) Phthalate(DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalate(DIBP)	1000	mg/kg	50	ND

Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series.
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium and Hexavalent chromium

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013 and IEC 62321-7-

1:2015, analysis was performed by ICP-OES and UV-Vis.

Test Item(s)	Limit	Unit(s)	MDL	A6
Cadmium(Cd)	100	mg/kg	2	ND
Lead(Pb)	1000	mg/kg	2	ND
Mercury(Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI)) ▼	-	μg/cm²	0.10	ND

Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series.
- (3) ▼ = a. The sample is positive for Cr(VI) if the Cr(VI)concentration is greater than 0.13 µg/cm². The sample coating is considered to contain Cr(VI)
 - b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10 $\mu g/cm^2$). The coating is considered a non-Cr(VI) based coating
 - c. The result between 0.10 μg/cm² and 0.13 μg/cm² is considered to be inconclusive-unavoidable coating variations may influence the determination.

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

<u>Halogen</u>

Test Method: With reference to EN 14582:2016, analysis was performed by IC.

Test Item(s)	Unit(s)	MDL	A8
Fluorine(F)	mg/kg	20	ND
Chlorine(Cl)	mg/kg	50	144
Bromine(Br)	mg/kg	50	9937
lodine(I)	mg/kg	50	ND

Notes:

(1) The test was subcontracted to SGS Guangzhou chemical lab.



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Chlorinated Paraffins

Test Method: With reference to ISO 22818:2021, analysis was performed by GC-NCI-MS.

Test Item(s)	CAS No.	Unit(s)	MDL	A8
Middle Chain Chlorinated Paraffins(MCCP)(C ₁₄ -C ₁₇)	85535-85-9	mg/kg	50	ND

Notes:

(1) The test was subcontracted to SGS Guangzhou chemical lab.

Tetrabromobisphenol A (TBBP-A)

Test Method: With reference to US EPA 3550C: 2007, analysis was performed by GC-MS or LC-MS or

LC-MS/MS.

Test Item(s)	CAS No.	Unit(s)	MDL	A8
Tetrabromobisphenol A(TBBP-A)	79-94-7	mg/kg	5	ND

Notes:

(1) The test was subcontracted to SGS Guangzhou chemical lab.

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (*w*=0) stated in ILAC-G8:09/2019.



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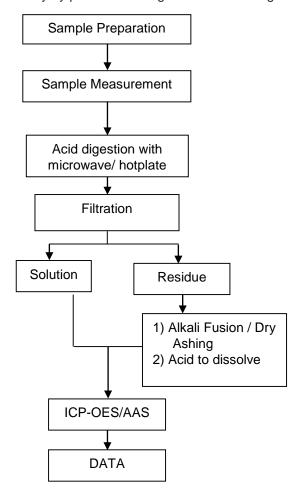
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Elements Testing Flow Chart

These samples were dissolved totally by pre-conditioning method according to below flow chart.





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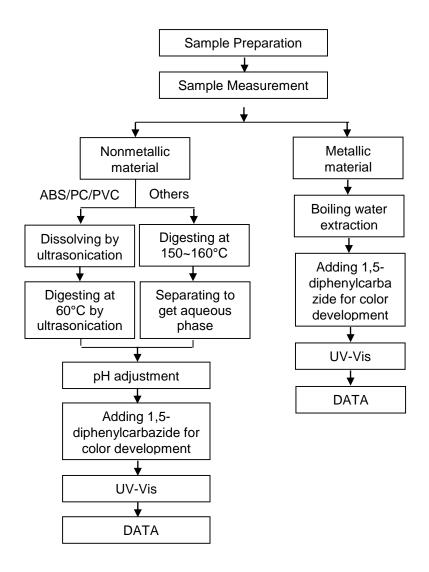


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Hexavalent Chromium (Cr(VI)) Testing Flow Chart





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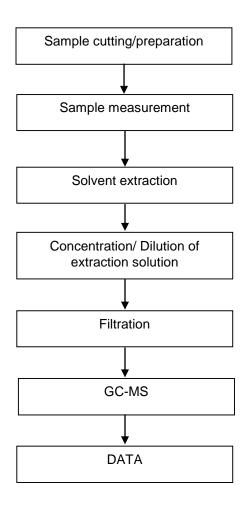
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PBBs/PBDEs Testing Flow Chart





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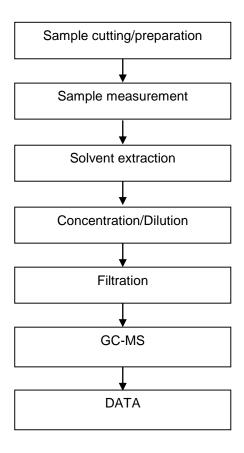
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Phthalates Testing Flow Chart





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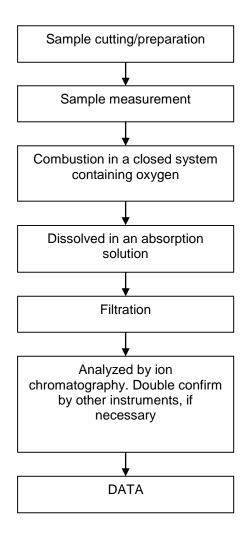
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Halogen Testing Flow Chart





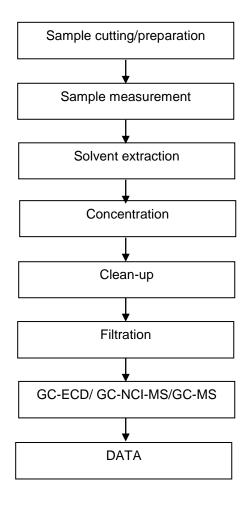
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Chlorinated Paraffin Testing Flow Chart





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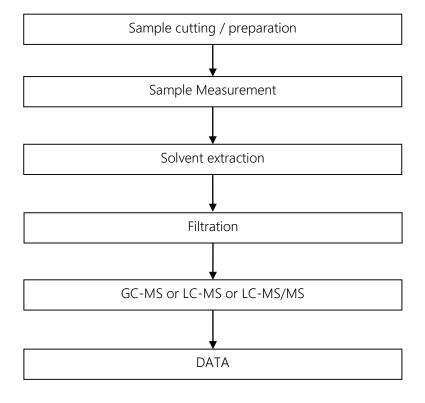
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ATTACHMENTS

TBBP-A Testing Flow Chart





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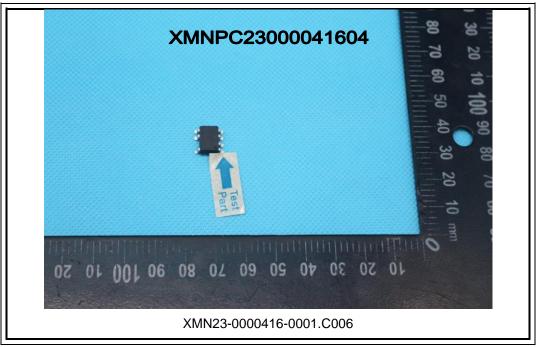
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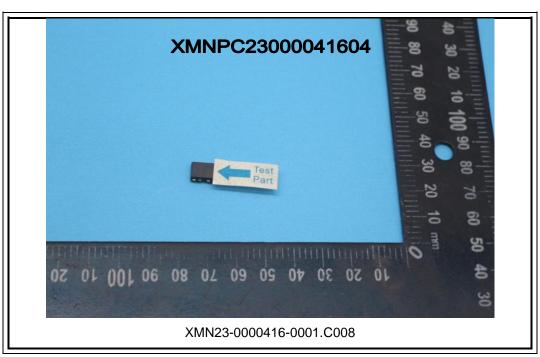
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Sample Photo:





SGS authenticate the photo on original report only

*** End of Report ***



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